UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
2890 WOODBRIDGE AVENUE
EDISON, NJ 08837

DATE: NOV 21 2017

SUBJECT: Removal Site Evaluation for the Deferiet Paper Mill Site (CERCLIS #: NYD002229269), Deferiet, Jefferson County, New York

FROM: Keith Glenn, On-Scene Coordinator
Removal Action Branch

TO: Joseph D. Rotola, Chief
Removal Action Branch

I. INTRODUCTION

Jefferson County (County) requested the United States Environmental Protection Agency (EPA) to evaluate the Deferiet Paper Mill Site (Site) for a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) removal action. A Removal Site Evaluation (RSE) was requested by the County on November 24, 2015. The initial request was to determine if asbestos-containing material (ACM) was impacting an easement for workers to access the Erie Boulevard Hydropower Plant. EPA performed a removal action (RV1) to address these concerns, which was completed in August 2016. However, the Action Memorandum dated April 27, 2016, recommended further evaluation of the Site for determining eligibility of an additional CERCLA removal action.

Samples collected as part of the RSE indicate a release of asbestos, a CERCLA designated hazardous substance, has occurred at the Site. Based on available information, a removal action is warranted to mitigate threats to public health or welfare or the environment associated with the release of a hazardous substance.

During the course of the RSE, containers of unknown contents were found in and around the former fire station and garage. The containers were observed to be in compromised conditions, many of which were deteriorated, leaking, bulging, void of tops and exposed to weathering. Samples indicated contents were hazardous substances and a separate removal action (RV2) was conducted to address threats associated with these containers. At the time of writing, RV2 was not yet completed and actions were ongoing.

This RSE does not focus on RV1 or RV2 removal actions.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

The Site is located at 400 Anderson Avenue (44.03918056, -75.68388889) in the Village of Deferiet, Jefferson County, New York (see Attachment A). The Site consists of various parcels of land and is bisected by the Power Canal, a diverted portion of the Black River. Numerous structures associated with the former production of paper remain, including administrative offices, a boiler house, a turbine room, machine areas, garages, raw material processing areas and a wastewater treatment plant. While the Site measures approximately 128.5 acres, focus of this RSE is only on those parcels located to the west of the Power Canal, measuring approximately 48 acres. Parcel #66.82-1-67 is approximately 47.49 acres and consists of various buildings, many of which have been partially demolished, neglected and allowed to fall into disrepair. A hydropower plant operated by Brookfield Renewable Energy Group is situated on the Power Canal, a portion of Parcel #76.34-1-1.1, and measures approximately .5 acres.

The Site is currently unused, with the exception of the hydropower plant located on the Power Canal. North of the Site is a vacant lot, the Village of Deferiet Volunteer Fire Department, the Black River and a landfill currently managed by the New York State Department of Environmental Conservation (NYSDEC). To the east of the Power Canal are lands encompassing structures that are former staging areas of raw materials for paper making. Beyond these structures are forested and vegetated lands until reaching Route 37, along which residential properties exist. The southern portion of the Site is the location of former coal storage areas, ash ponds, vacant lands and forested areas. The southern boundary of the Site is lined with residential properties along Wilma Avenue. West of the Site are residential properties along Anderson Avenue, one of the main thoroughfares of the Village: A majority of the population in the Village live west of the Site.

In attempts to keep unauthorized personnel from entering the Site, security fence is present along Anderson Avenue. However, sections of fence were observed to be damaged and evidence of unauthorized access was noticeable. The southern boundary of the Site does not have fence and trails originating from Wilma Avenue onto the Site indicate a frequency of vehicles and people trespassing onto the property. Graffiti and other evidence of trespassing were observed throughout the structures located on-site.

2. Site History

The Site is the location of a former paper mill. The St. Regis Paper Company was started in 1899 in Deferiet, NY. In 1902 construction to build a paper mill commenced, along with the design of the Power Canal and the Village of Deferiet, to include houses, a school, public hall, general store and a hotel. St. Regis Paper Company merged with Champion Paper after approximately 16 years of operation. By 1922 the Village including the residential properties, were owned by the company. Throughout the 1960s, Champion sold off the houses to individual owners, investors and companies. In 1948 expansion activities at the mill brought in boilers, an acid plant, enlargement of the sulfite process area and modernization of the power plant. In 1999 the western portion of the Site was sold to the Deferiet Paper Company, a subsidiary of Crabar Paper & Allied Products Corporation. The Deferiet Paper Company filed for bankruptcy in 2001 and the mill was closed. It was reopened in 2003 following purchase of the facility from Newstech Inc. The mill was closed again in 2004 and in 2005 was sold to Deferiet Development LLC. The facility was then scrapped and heavily salvaged. Portions of the machine room and turbine room were demolished leaving large areas of debris and rubble. Most buildings, with the exception of the hydropower plant, were allowed to fall into disrepair. Portions of the wet room were found to be deteriorating and threatening to fall into the Power Canal.

3. Previous Work Relevant to this Removal Site Evaluation

In March 1986, EPA and NYSDEC conducted a preliminary assessment of the Site (listed as the St. Regis Paper Mills Company Site). A review of available information indicated that both agencies had no reason to suspect a "use of toxic chemicals", including polychlorinated biphenyls (PCBs). Recommendations from a March 1986 NYSDEC letter and a March 1986 EPA review with further concurrence in January 1988, recommended no further action at the Site.

In November 2015, an attorney with Jefferson County requested EPA to evaluate the Site for threats associated with the release or threat of release of asbestos. Of particular concern was an easement utilized by personnel working at the hydropower plant. In February 2016, the removal program received a verbal authorization to proceed with a removal action (RV1) to address these concerns. In March 2016, EPA activated and mobilized Emergency and Rapid Response Services (ERRS) contractors to apply a sealant on piping exposed in the easement. In addition, the removal action allowed for the subcontract of an engineer firm to develop a demolition plan, should the Site warrant such activity. The removal action also recommended an assessment of areas outside of the easement to determine if asbestos was present in building materials, debris piles, partially demolished structures, equipment and other general locations throughout the Site. The removal action (RV1) was completed on August 30, 2016.

No previous work relevant to this RSE has been performed by other government officials. Village officials, including the Fire Department, Department of Public Works and the Mayor's Office have visited and surveyed the Site numerous times, in addition to NYSDEC personnel. All agencies have indicated a lack of funds for addressing potential threats at the Site due to the time, technical and monetary constraints.

B. Site Assessment Activities/Observations

Between January 2017 and March 2017, EPA attempted to gain access from the property owners of the Site, without success. On May 11, 2017, the County took a temporary incidence of ownership for the purposes of performing an environmental assessment at the Site, and authorized EPA as its representative.

On June 6, 2017, EPA and Removal Support Team (RST) contractors surveyed the Site with personnel from Brookfield Renewable Energy Group. All buildings were observed to be vacant with several structures observed to be partially demolished, allowed to fall into disrepair and impacting the structural integrity of the hydropower plant. Many building facades were observed to have openings from the extraction of large equipment that may have been sold or scrapped. The large complex appeared to be accessed by trespassers as evidence of such was commonly found throughout the Site. Suspected asbestos-containing material (SACM) was observed in exposed conditions, allowed to weather, hanging from numerous structures including equipment and piping, on various surfaces and throughout the interior and exterior of the structures. In addition, numerous 55-gallon drums, 2 above ground storage tanks, compressed gas cylinders and numerous small containers holding unknown materials were observed concentrated in and near the garage and former fire department building and the boiler room. These containers were addressed during a second removal action (RV2) taken at the Site which commenced in July 2017. Containers associated with this removal action (RV2) are not discussed in this RSE and can be found in the August 2, 2017, Action Memorandum, Administrative Record and in Pollution Reports generated for the action.

While fence was observed to be in place along the western perimeter of the Site, portions appeared to be intentionally damaged for allowance of unauthorized access. In addition, the southern boundary of the Site appeared to be open without security measures to prevent entry. Evidence of trespassing was observed throughout the entire Site, including those that are structurally unsound, contain SACM and others that are generally unsafe for use.

On June 7, 2017, a total of 30 samples were collected for analysis of asbestos. Samples were collected from equipment, debris piles, roofing systems, pipe wrap, equipment jackets, ceiling tiles and SACM debris located throughout the Site. A total of 7 samples were positive for the detection of asbestos, with concentrations ranging from 3.12% - 25% of chrysotile, 12.5% of crocidolite and 9.38% - 30% of amosite asbestos. Asbestos-containing material (ACM) was found in the turbine room, boiler room, machine room and wet/beater room (see Attachment B). The highest concentration of chrysotile ACM was detected in Sample #P001-BULK018-01, located in a pile of building debris on the first floor of the machine room. The highest, and only, concentration of crocidolite asbestos was detected in Sample #P001-BULK015-01, associated with a pipe located along a ground-floor walkway in the wet/beater room. The highest concentration of amosite ACM was detected in Sample #P001-BULK003-01, a section of pipe wrap located on the first floor of the turbine room. Sample results are located in Attachment C.

C. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Sampling and analysis conducted at the Site has identified the presence of asbestos, a CERCLA hazardous substance as defined in Section 101 (14) of CERCLA, 42 U.S.C. § 9601(14), and is a listed hazardous substance in 40 CRF Table 302.4 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Site is a facility within the meaning of Section 101(9) of CERCLA, 42 U.S.C. § 9601(9), and the presence of asbestos in friable form at the Site constitute a "release" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

Substances Identified	Maximum Concentration	Statutory Source for a Hazardous Substance
Asbestos	25% Chrysotile	307(a) CWA, 112 CAA
Asbestos	12.5% Crocidolite	307(a) CWA, 112 CAA
Asbestos	30% Amosite	307(a) CWA, 112 CAA

Asbestos is designated as a CERCLA hazardous substance under 40 CFR Table 302.4 when friable. Friability is the ease with which a material can be crumbled, pulverized or reduced to powder when dry, by applying hand pressure. The degree of friability of the ACM determines the potential for fibers to be released into the air. Sampling and analysis conducted at the Site has identified chrysotile asbestos to be present at concentrations ranging from 3.12% to 25%, crocidolite asbestos at 12.5% and amosite asbestos between 9.38% and 30%.

III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Asbestos is a hazardous substance as defined by Section 101(14), of CERCLA, 42 U.S.C. § 9601(14), and is listed in Table 302.4 of the NCP.

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high concentrations of asbestos fibers over a long period of time may result in scar-like tissue developing in the lungs and in the lining of the pleural cavity that surrounds the lungs. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not the general public. People with asbestosis have difficulty breathing, aggressive coughing and in severe cases, heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes to the pleural membrane by introducing blebs, or plaques. Pleural plaques can occur in those working with asbestos products and in people living near areas with elevated levels of asbestos in the environment. Effects on breathing due to the presence of pleural plaques alone are not usually serious, however prolonged exposure can lead to thickening of the pleural membrane, which may restrict breathing.

EPA has identified conditions at the Site that meet the requirements of Section 300.415(b) (2) of the NCP (§40 CFR 300.415), which indicate that a removal action is warranted. Site conditions that correspond to factors that provide a basis for a removal action under Section 300.415 (b) (2) of the NCP include:

(1) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)];

There is an actual or potential exposure to human populations from a hazardous substance at the Deferiet Paper Mill Site. Sample results indicate the presence of ACM at numerous locations throughout the facility. When buildings were demolished or altered to retrieve items of value, such as scrap metal and equipment, asbestos was likely introduced into the air as there is no evidence to suggest demolition activities were properly conducted. Additionally, demolition activities have resulted in exposure and weathering of ACM. Many of the windows, door and walls are missing due to salvage activities, allowing ACM to be exposed to the environment and degrade. Any disturbance of this material, such as moving, natural decay, and wind events, may cause asbestos fibers to be released to the air. Exposure to asbestos found at the Site can occur through inhalation, once fibers become airborne. Currently, ACM sits on top of debris piles that are exposed and near areas where trespassing activities have been observed. Approximately 200 people live in the Village adjacent to the Site.

(2) Weather conditions that may cause hazardous substances or pollutants to migrate or to be released [300.415(b)(2)(vi)];

Sample results indicate the presence of ACM throughout the Site, much of which is subject to weathering. Debris piles containing ACM are exposed to drastic weather events, including hot summers and frigid winters. Exposure to these elements may cause the material to degrade, crack, flake and separate from any original protective wrap. Weathering causes the matrix which binds the fibers together to be broken down, releasing the fibers to the environment. Once in the environment, the stable mineral fibers persist and do not readily break down further. Wind traveling across the Site may cause asbestos fibers to be entrained in the air, increasing the likelihood of being carried downwind. In addition, rain and snow events may cause ACM to be transported to sewer systems, the Power Canal, the Black River or areas adjacent to the Site including residential properties.

(3) The availability of other appropriate federal or State response mechanisms to respond to the release [300.415(b)(2)(vii)];

EPA is the only government agency capable of taking a timely and appropriate action to respond to the threat posed by the presence of hazardous substances at the Site.

B. Threats to the Environment

At this time there is no documentation to indicate that the Site is currently having an acute impact to any sensitive environments or natural resources.

IV. CONCLUSIONS

The Site is considered a facility as defined by Section 300.5 of the NCP and Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). A release of a hazardous substance has occurred at the Deferiet Paper Mill Site. Friable asbestos-containing material has been identified in demolished and structurally unsound buildings located throughout the Site. An exposure pathway exists that may present a threat to the public health and welfare. A CERCLA removal action is warranted to mitigate the threat to public health or welfare or environment associated with the release of hazardous substances at the Site.

cc: Joel Petty, EPA-RAES
Argie Cirillo, EPA-ORC
Peter Taylor, NYSDEC
Honorable Janet Zando, Mayor
David Paulsen, Jefferson County

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
2890 WOODBRIDGE AVENUE
EDISON, NJ 08837

DATE:

SUBJECT: Removal Site Evaluation for the Deferiet Paper Mill Site (CERCLIS #: NYD002229269), Deferiet, Jefferson County, New York

FROM: Keith Glenn, On-Scene Coordinator
Removal Action Branch

TO: Joseph D. Rotola, Chief
Removal Action Branch

I. INTRODUCTION

Jefferson County (County) requested the United States Environmental Protection Agency (EPA) to evaluate the Deferiet Paper Mill Site (Site) for a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) removal action. A Removal Site Evaluation (RSE) was requested by the County on November 24, 2015. The initial request was to determine if asbestos-containing material (ACM) was impacting an easement for workers to access the Erie Boulevard Hydropower Plant. EPA performed a removal action (RV1) to address these concerns, which was completed in August 2016. However, the Action Memorandum dated April 27, 2016, recommended further evaluation of the Site for determining eligibility of an additional CERCLA removal action.

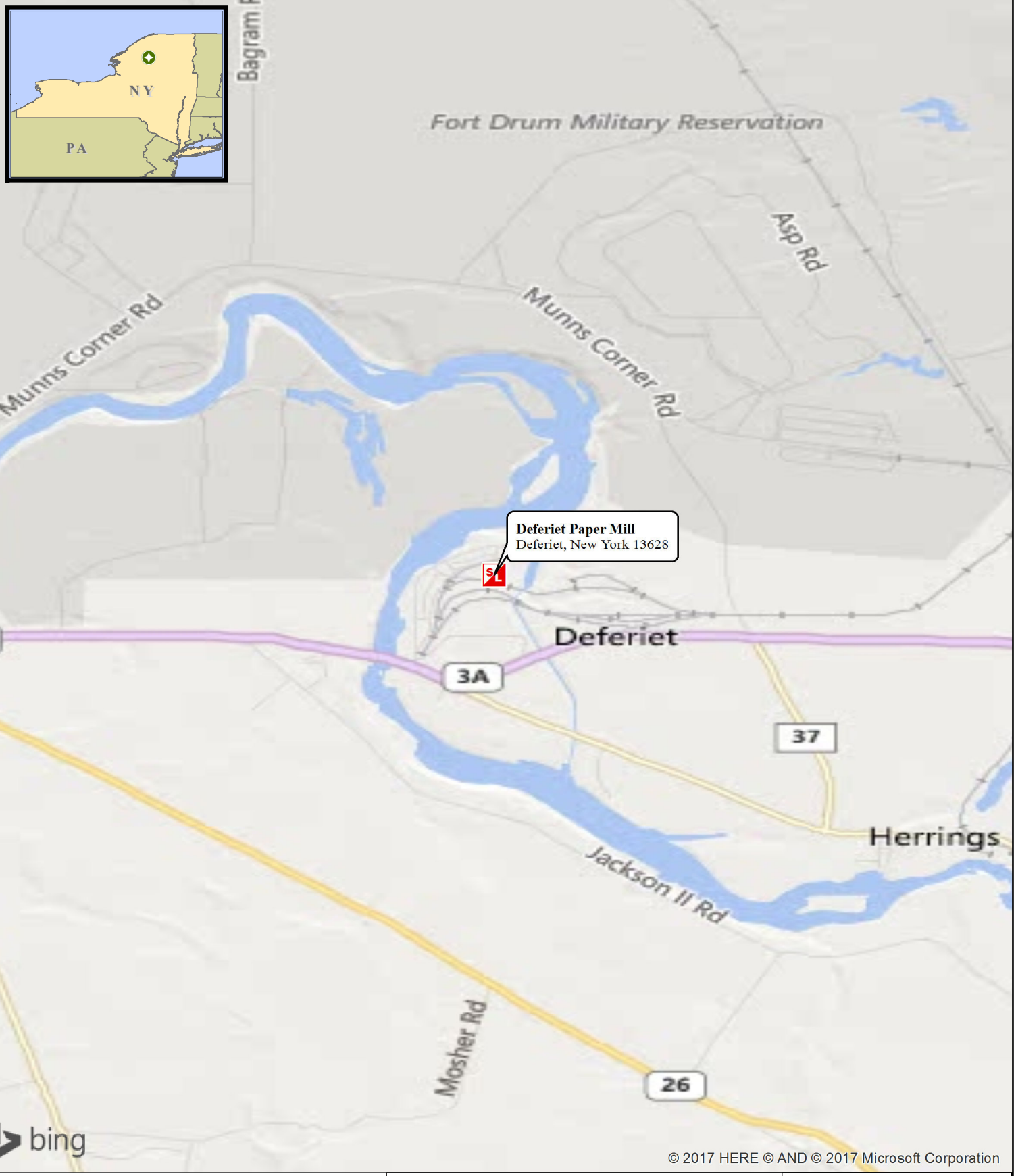
Samples collected as part of the RSE indicate a release of asbestos, a CERCLA designated hazardous substance, has occurred at the Site. Based on available information, a removal action is warranted to mitigate threats to public health or welfare or the environment associated with the release of a hazardous substance.

Name: Deferiet Paper Mill	initial: ss Date: 9/19/2017	Filename: Deferiet Paper Mill RSE Final						
Symbol	ERRD-RAB	ERRD-RAB						
Surname	Glenn	Rotola						
Date	9/21/17	10/31/17						

REMOVAL SITE EVALUATION FOR THE
DEFERIET PAPER MILL SITE
DEFERIET, NY
SITE ID# A26F

ATTACHMENT A

Site Location Maps



Legend

SL Site Location

N

0 0.175 0.35 0.7 1.05 1.4 Miles

Weston Solutions, Inc.
East Division

In Association With
Scientific and Environmental Associates, Inc.,
Environmental Compliance Consultants, Inc.,
Avatar Environmental, LLC, On-Site Environmental,
Inc.and Sovereign Consulting, Inc

Figure 1:
Site Location Map

Deferiet Paper Mill Site
Deferiet, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

DATE MODIFIED: 5/31/2017

GIS ANALYST:	M. Beuthe
EPA OSC:	K. Glenn
RST SPM:	M. Beuthe
FILENAME:	20170531_SITELOCATIONMAP.MXD

\\FSED2DATA1\GISDATA\RST_3\00070198\MXD\20170531_SITELOCATIONMAP.MXD

SCALE

1:1,500

LEGEND

Site Locations

Easement Area

FIGURE 2:
Site Layout Map

Deferiet Paper Mill Site
Deferiet, NY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

Weston Solutions, Inc.

In Association With
Scientific and Environmental Associates, Inc., Environmental Compliance Consultants, Inc., Avatar Environmental, LLC, On-Site Environmental, Inc., and Sovereign Consulting, Inc.

GIS ANALYST:	M. BEUTHE
EPA OSC:	K. GLENN
RST 2 SPM:	M. BEUTHE
FILENAME:	20170628_SITELAYOUTMAP.MXD
FIGURE:	2
REVISION	0
DATE MODIFIED	6/28/2017

WESTON SOLUTIONS

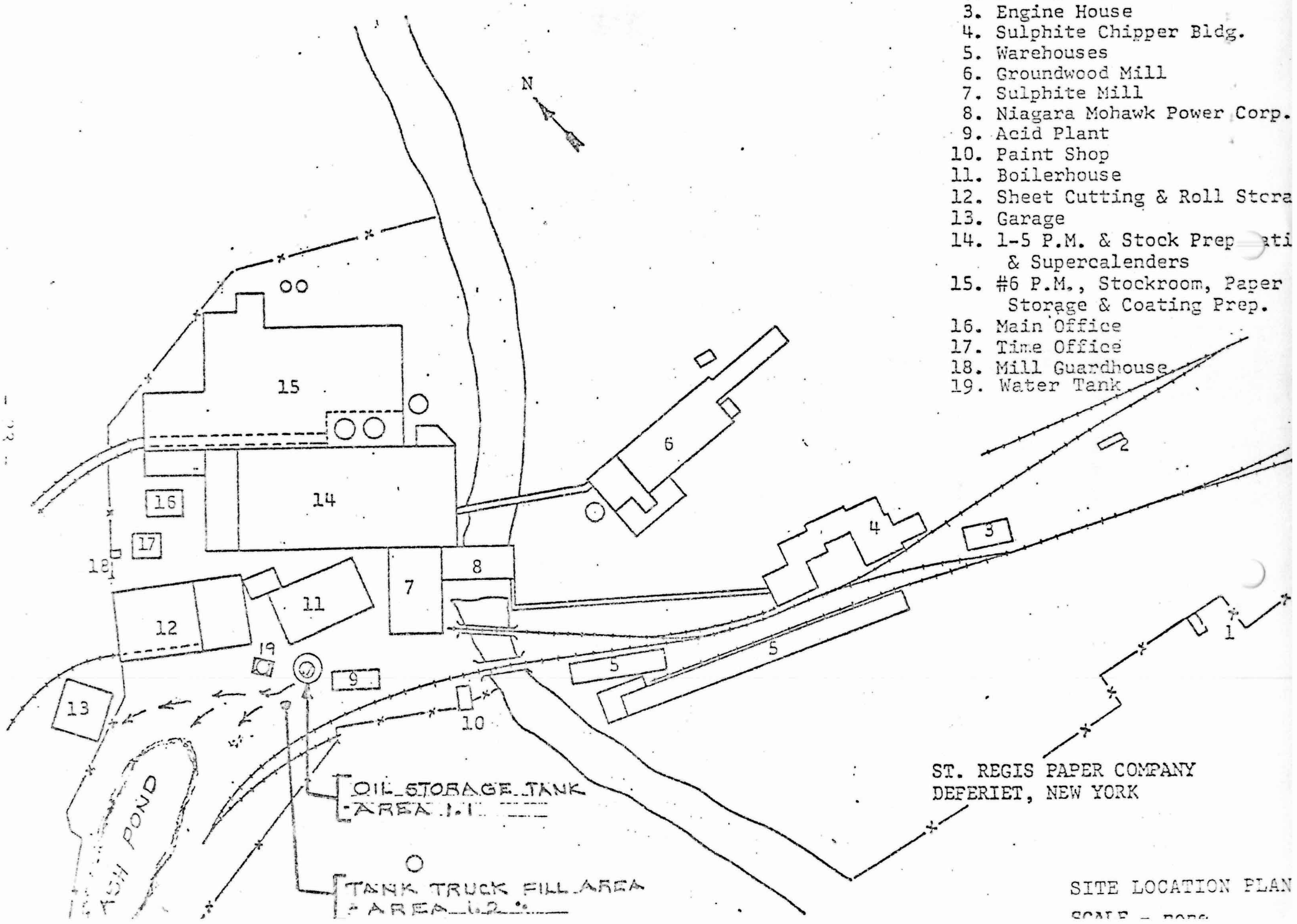

1. Yard Guardhouse
2. Scaler Shack
3. Engine House
4. Sulphite Chipper Bldg.
5. Warehouses
6. Groundwood Mill
7. Sulphite Mill
8. Niagara Mohawk Power Corp.
9. Acid Plant
10. Paint Shop
11. Boilerhouse
12. Sheet Cutting & Roll Stora
13. Garage
14. 1-5 P.M. & Stock Prep ati & Supercalenders
15. #6 P.M., Stockroom, Paper Storage & Coating Prep.
16. Main Office
17. Time Office
18. Mill Guardhouse
19. Water Tank
N
OIL STORAGE TANK AREA 1.1
TANK TRUCK FILL AREA AREA 1.2
ASH POND
ST. REGIS PAPER COMPANY
DEFERIET, NEW YORK
SITE LOCATION PLAN

Figure 3. Aerial view of the St. Regis paper mill in operation (looking south), undated(source: Low Impact Hydro Institute, http://www.impacthydro.org).

Figure 4. Annotated aerial overview (looking north).

REMOVAL SITE EVALUATION FOR THE
DEFERIET PAPER MILL SITE
DEFERIET, NY
SITE ID# A26F

ATTACHMENT B

Data Maps

Storage Building

Administration Building 02

Administration Building 01

HR Building

Turbine Room

Boiler Room

Machine Room

Sulfite Room

Wet/Beater Room

Brookfield Renewable Power, LLC

P001-BULK010-01
Asbestos: ND

P001-BULK023-01
Asbestos: ND

P001-BULK019-01
Asbestos: 23.50% Chrysotile

P001-BULK022-01
Asbestos: ND

P001-BULK020-01
Asbestos: ND

P001-BULK021-01
Asbestos: ND

P001-BULK009-01
Asbestos: ND

P001-BULK18-01
Asbestos: 25.00% Chrysotile

P001-BULK011-01
Asbestos: ND

P001-BULK003-01
Asbestos: 30.00% Amosite; 10.00% Chrysotile

P001-BULK016-01
Asbestos: ND

P001-BULK008-01
Asbestos: ND

P001-BULK001-01
Asbestos: ND

P001-BULK012-01
Asbestos: ND

P001-BULK017-01
Asbestos: ND

P001-BULK002-01
Asbestos: ND

P001-BULK015-01
Asbestos: 12.50% Chrysotile; 12.50% Crocidolite

P001-BULK028-01
Asbestos: ND

P001-BULK007-01
Asbestos: ND

P001-BULK027-01
Asbestos: ND

P001-BULK004-01
Asbestos: ND

P001-BULK014-01
Asbestos: 9.38% Amosite; 3.12% Chrysotile

P001-BULK005-01
Asbestos: 25.00% Chrysotile

P001-BULK029-01
Asbestos: ND

P001-BULK013-01
Asbestos: ND

P001-BULK006-01
Asbestos: ND

P001-BULK030-01
Asbestos: 10.50% Amosite; 10.50% Chrysotile

P001-BULK026-01
Asbestos: ND

P001-BULK025-01
Asbestos: ND

P001-BULK024-01
Asbestos: ND

0.01 0.005 0 0.01 0.02 0.03 0.04 Miles

SCALE

1:1,100

LEGEND

- Site Locations
- Easement Area
- SACM Samples Collected from the First Floor and Ground Level- No Asbestos Detected.
- SACM Samples Collected from the Second Floor - No Asbestos Detected
- SACM Samples Collected from the First Floor and Ground Level - Asbestos Detected.
- SACM Samples Collected from the Second Floor - Asbestos Detected

Notes

SACM -Suspect Asbestos Containing Material

FIGURE 3:
Bulk SACM Results Map

Deferiet Paper Mill Site
Deferiet, NY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

Weston Solutions, Inc.

In Association With
Scientific and Environmental Associates, Inc., Environmental Compliance Consultants, Inc., Avatar Environmental, LLC, On-Site Environmental, Inc., and Sovereign Consulting, Inc.

GIS ANALYST:	M. BEUTHE
EPA OSC:	K. GLENN
RST 2 SPM:	M. BEUTHE
FILENAME:	170628_SACMRESULTS.MXD
FIGURE	2
REVISION	0
DATE MODIFIED	6/28/2017

REMOVAL SITE EVALUATION FOR THE
DEFERIET PAPER MILL SITE
DEFERIET, NY
SITE ID# A26F

ATTACHMENT C

Asbestos Analytical Data

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Attn: **Bryan Gonzalez**
Weston Solutions (King Georges Post)
1090 King Georges Post Road
Suite 201
Edison, NJ 08837

Project: **RFP #439**

Phone:	(732) 585-4400
Fax:	
Received:	06/09/17 7:30 PM
Analysis Date:	6/29/2017
Collected:	6/7/2017

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non Asbestos Fibrous	Non Asbestos Non-Fibrous	Asbestos
Sample ID P001-BULK002-01 *041716638-0001*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	White	95.00% Glass	5.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK003-01 *041716638-0002*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	7/3/2017	White		60.00% Non-fibrous (other)	**30.00% Amosite** **10.00% Chrysotile** **40.00% Total**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK004-01 *041716638-0003*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	White	10.00% Synthetic 5.00% Glass	85.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK005-01 *041716638-0004*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	Brown		75.00% Non-fibrous (other)	**25.00% Chrysotile**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK006-01 *041716638-0005*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	White	15.00% Synthetic 5.00% Glass	2.00% Mica 78.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From 07/03/2017 12:26:23

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID P001-BULK007-01 *041716638-0006*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	Tan		100.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK008-01 *041716638-0007*		**Description** NOB **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable					**Not Analyzed**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB	7/3/2017	White	25.4% Min. Wool		**Inconclusive: None Detected**
TEM NYS 198.4 NOB	7/3/2017	White			**None Detected**
Sample ID P001-BULK009-01 *041716638-0008*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	Tan/White		100.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK010-01 *041716638-0009*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	Yellow	95.00% Min. Wool	5.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK011-01 *041716638-0010*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	7/3/2017	Brown/Black	50.00% Cellulose	15.00% Mica 35.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK012-01 *041716638-0011*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	6/29/2017	Purple	5.00% Cellulose	95.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From 07/03/2017 12:26:23

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID P001-BULK013-01 *041716638-0012*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	Gray	50.00% Cellulose	50.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK014-01 *041716638-0013*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	Brown		87.50% Non-fibrous (other)	**9.38% Amosite** **3.12% Chrysotile** **12.50% Total**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK015-01 *041716638-0014*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	Gray		75.00% Non-fibrous (other)	**12.50% Chrysotile** **12.50% Crocidolite** **25.00% Total**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK016-01 *041716638-0015*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	White	10.00% Cellulose	90.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK017-01 *041716638-0016*		**Description** **Homogeneity**	Friable Heterogeneous		
PLM NYS 198.1 Friable	7/3/2017	Brown/Gray	70.00% Cellulose	30.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK018-01 *041716638-0017*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	Gray		75.00% Non-fibrous (other)	**25.00% Chrysotile**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From 07/03/2017 12:26:23

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID P001-BULK019-01 *041716638-0018*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	7/3/2017	Gray		76.50% Non-fibrous (other)	**23.50% Chrysotile**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK020-01 *041716638-0019*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	7/3/2017	White	20.00% Synthetic 10.00% Glass	70.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK021-01 *041716638-0020*		**Description** NOB **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable					**Not Analyzed**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB	7/3/2017	Black			**Inconclusive: None Detected**
TEM NYS 198.4 NOB	7/3/2017	Black			**<1% Chrysotile** **<1% Total**
Sample ID P001-BULK022-01 *041716638-0021*		**Description** Friable **Homogeneity** Heterogeneous			
PLM NYS 198.1 Friable	6/29/2017	Various	80.00% Cellulose	14.40% Non-fibrous (other) 5.60% Vermiculite	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK023-01 *041716638-0022*		**Description** NOB **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable					**Not Analyzed**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB	7/3/2017	Black			**Inconclusive: None Detected**
TEM NYS 198.4 NOB	7/3/2017	Black			**None Detected**
Sample ID P001-BULK024-01 *041716638-0023*		**Description** Friable **Homogeneity** Homogeneous			
PLM NYS 198.1 Friable	7/3/2017	White	10.00% Synthetic 10.00% Glass	80.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From 07/03/2017 12:26:23

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID P001-BULK025-01 *041716638-0024*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	Tan	10.00% Cellulose 10.00% Synthetic	80.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK026-01 *041716638-0025*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	Brown/Gray/		100.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK027-01 *041716638-0026*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	White/Black	50.00% Glass	50.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK028-01 *041716638-0027*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	Pink		100.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK029-01 *041716638-0028*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	Black/Rust		100.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID P001-BULK030-01 *041716638-0029*		**Description** **Homogeneity**	Friable Homogeneous		
PLM NYS 198.1 Friable	7/3/2017	Tan		79.00% Non-fibrous (other)	**10.50% Amosite** **10.50% Chrysotile** **21.00% Total**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From 07/03/2017 12:26:23

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com cinnasblab@EMSL.com

EMSL Order:	041716638
CustomerID:	RFWE53
CustomerPO:	
ProjectID:	RFP 439

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID	P001-BULK001-01	**Description**	Friable		
	041716638-0030	**Homogeneity**	Homogeneous		
PLM NYS 198.1 Friable	6/29/2017	White	98.00% Min. Wool	2.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Analyst(s)
Chelsey Bilhear
Patrick Carr
William Nguyen

Benjamin Ellis, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing.
All samples examined for the presence of vermiculite when analyzed via NYS 198.1.
-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf
EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, PA ID# 68-00367